Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (CANCEL)

2 - 72 (PREVIOUSLY CANCELED)

73. (PRESENTLY AMENDED) A method for securing an intravertebral prosthetic between vertebrae, comprising the steps of:

_____implanting an arcuate fixation member between the vertebrae, where each end of the fixation member is secured to one of the vertebrae; and

_____passing a portion of the arcuate fixation member through the intravertebral prosthetic device,

_____wherein ~~a~~ at least the portion of the fixation member that is passing through the intravertebral prosthetic device is made from a ~~flexible~~compressible material.

74. (PRESENTLY AMENDED) ~~The method of claim 73~~ A method for securing an intravertebral prosthetic device adjacent vertebrae, comprising:

_____implanting an arcuate fixation member between the vertebrae;

_____passing a portion of the arcuate fixation member through the intravertebral prosthetic device;

wherein a portion of the fixation member is made from a compressible material; and

_____wherein the fixation member is implanted through a pre-formed aperture in each of the adjacent vertebrae.

75. (PRESENTLY AMENDED) The method of claim ~~73~~ 74 wherein the ~~fixation member is implanted through a~~ pre-formed aperture in one of the adjacent vertebrae ~~and in a~~ is a partially pre-formed aperture ~~in the other of the adjacent vertebrae.~~

76. (PRESENTLY AMENDED) The method of claim ~~73~~ 74 wherein the preformed aperture has been drilled in each of the adjacent vertebrae.

77. (PRESENTLY AMENDED) The method of claim ~~73~~ 74 wherein the fixation member is the sole apparatus employed to maintain the location and orientation of the intravertebral prosthetic device.

78. (PRESENTLY AMENDED) The method of claim ~~73~~ 74 wherein the ~~flexible~~compressible material is one of silicon, elastomeric polymers, polyurethances and copolymers thereof, hydrogels, collagen, bioabsorbables, compositions, a metallic spring or coil, or a material that allows ~~allow~~ continual mobility between the vertebral bodies.

79. (PRESENTLY AMENDED) The method of claim ~~73~~ 74, wherein the fixation member includes a non-flexible portion made of a material conducive to attachment to the vertebrae.

80. (PRESENTLY AMENDED) The method of claim 79, wherein the non-flexible portion of the fixation member is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

81. (PRESENTLY AMENDED) The method of claim ~~73~~ 74, wherein the ~~flexible~~compressible portion of the fixation member is disposed between end sections, each end section ~~be~~ being made of non-flexible material conducive to attachment to the vertebrae.

82. (PRESENTLY AMENDED) The method of claim 81, wherein the non-flexible material is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

83. (PRESENTLY AMENDED) The method of claim ~~73~~ 74 wherein the fixation member is one of solid, hollow or with ingrowth fenestrations and screw holes or expansion bolts or staples.

84. (PRESENTLY AMENDED) A method for securing an intravertebral prosthetic device of a spine, comprising:

providing a positioning apparatus including two guide sleeves, each guide sleeve having a long axis;

locating the two guide sleeves with respect to the adjacent vertebrae such that a vertex formed by the long axis of each guide sleeve is located in the intervertebral space ~~for~~ of the adjacent vertebrae;

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forming an aperture in each of the adjacent vertebrae using at least one of the guide sleeves;

inserting an implant into the apertures formed in each of the adjacent vertebrae so that the implant extends between the adjacent vertebrae and through the intervertebral space and so a portion of the implant passes ~~fixation member~~ through the intravertebral prosthetic device, wherein the portion of the implant is made from a ~~flexible~~compressible material.

85. (PREVIOUSLY ADDED) The method of claim 84 wherein said step of forming includes forming an arcuate aperture in each of the adjacent vertebrae such that the arcuate apertures in the adjacent vertebrae have a common axis of rotation.

86. (PREVIOUSLY ADDED) The method of claim 84 wherein the implant is inserted through a through aperture in one of the adjacent vertebrae and in a partially formed aperture in the other of the adjacent vertebrae.

87. (PREVIOUSLY ADDED) The method of claim 84 wherein the implant is the sole apparatus employed to maintain the location and orientation of the intravertebral prosthetic device.

88. (PRESENTLY AMENDED) The method of claim 84 wherein the ~~flexible~~compressible material is one of silicon, elastomeric polymers, polyurethances and copolymers thereof, hydrogels, collagen, bioabsorbables, compositions, a metallic spring or coil, or a material that ~~allow~~ allows continual mobility between the vertebral bodies.

89. (PREVIOUSLY ADDED) The method of claim 84, wherein the implant includes a non-flexible portion made of a material conducive to attachment to the vertebrae.

90. (PRESENTLY AMENDED) The method of claim 89, wherein the non-flexible portion of the implant is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

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91. (PRESENTLY AMENDED) The method of claim 84, wherein the ~~flexible~~compressible portion of the implant is disposed between end sections, each end section ~~be~~ being made of non-flexible material conducive to attachment to the vertebrae.

92. (PRESENTLY AMENDED) The method of claim 91, wherein the non-flexible material is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

93. (PREVIOUSLY ADDED) The method of claim 84 wherein the step of implanting includes:

inserting a beginning end of the implant into an entrance opening of one of the adjacent vertebrae;

applying a force to the portion of the implant extending from the entrance opening so as to drive the implant beginning end though the aperture in the aperture of said one of the adjacent

vertebrae, through the intervertebral space and into the aperture in the other of the adjacent vertebrae.

94. (PRESENTLY AMENDED) A spinal intravertebral prosthetic system, comprising:

an intravertebral prosthetic device;

an arcuate implant member of a size sufficient to extend between two adjacent vertebrate; ~~and~~

wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate implant member; and

wherein ~~a~~ the portion of the arcuate implant ~~member that passes, the portion passing~~ through the intravertebral prosthetic device ~~device,~~ is made from a ~~flexible~~compressible material.

95. (PRESENTLY AMENDED) The spinal intravertebral prosthetic system of claim 94 wherein the ~~flexible~~compressible material is one of silicon, elastomeric polymers, polyurethances and copolymers thereof, hydrogels, collagen, bioabsorbables, compositions, a metallic spring or coil, or a material that ~~allow~~ allows continual mobility between the vertebral bodies.

96. (PREVIOUSLY ADDED) The spinal intravertebral prosthetic system of claim 94, wherein the implant includes a non-flexible portion made of a material conducive to attachment to the vertebrae.

97. (PRESENTLY AMENDED) The spinal intravertebral prosthetic system of claim 96, wherein the non-flexible portion of the implant is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

98. (PRESENTLY AMENDED) The spinal intravertebral prosthetic system of claim 94, wherein the ~~flexible~~compressible portion of the implant is disposed between end sections, each end section ~~be~~ being made of non-flexible material conducive to attachment to the vertebrae.

99. (PRESENTLY AMENDED) The spinal intravertebral prosthetic system of claim 98, wherein the non-flexible material is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

100. (PRESENTLY AMENDED) A ~~spinal~~ spinal intravertebral prosthetic device kit comprising:

an intravertebral prosthetic device;

an arcuate fixation member; ~~and~~

wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate fixation member; and

wherein ~~the a~~ portion of the fixation member ~~, the portion passing~~ that passes through the intravertebral prosthetic device, is made from a ~~flexible~~compressible material.

~~an arcuate fixation member.~~

101. (PRESENTLY AMENDED) A spinal intravertebral prosthetic device kit comprising:

a positioning apparatus including:

two guide sleeves, each guide sleeve having a long axis,

a cross member,

an intravertebral spacer,

wherein the guide sleeves are pivotably mounted to the cross member, and

wherein the intravertebral spacer is spaced from the cross member and interconnected thereto so as to be between the pivots points for the guide sleeves;

an intravertebral prosthetic device;

a fixation member; and

wherein a portion of the fixation member, the portion passing through the intravertebral prosthetic device, is made from a ~~flexible~~compressible material.

~~an arcuate fixation member.~~

102. (PRESENTLY AMENDED) The spinal intravertebral prosthetic device kit of claim 101 wherein the ~~flexible~~compressible material is one of silicon, elastomeric polymers, polyurethances and copolymers thereof, hydrogels, collagen, bioabsorbables, compositions, a metallic spring or coil, or a material that ~~allow~~ allows continual mobility between the vertebral bodies.

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103. (PREVIOUSLY ADDED) The spinal intravertebral prosthetic device kit of claim 101, wherein the fixation member includes a non-flexible portion made of a material conducive to attachment to the vertebrae.

104. (PREVIOUSLY ADDED) The spinal intravertebral prosthetic device kit of claim 103, wherein the non-flexible portion is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, collogen or collagen coated metal or bone.

105. (PRESENTLY AMENDED) The spinal intravertebral prosthetic device kit of claim 101, wherein the ~~flexible~~compressible portion of the fixation member is disposed between end sections, each end section be made of non-flexible material conducive to attachment to the vertebrae.

106. (PREVIOUSLY ADDED) The spinal intravertebral prosthetic device kit of claim 105, wherein the non-flexible material is made one or more of a metal, bone, morphogenic protein,

carbon fiber composite, nitinol, a biodegradable material, collogen or collagen coated metal or bone.

107. The spinal intravertebral prosthetic device kit of claim 101, wherein the fixation member is arcuate.

108. (PRESENTLY AMENDED) A method for securing an intravertebral prosthetic device, comprising:

providing a positioning apparatus including a pivot arm that is rotatable about a pivot point;

locating the positioning apparatus with respect to the adjacent vertebrae such that the pivot point is disposed between the adjacent vertebrae;

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forming an aperture in each of the adjacent vertebrae responsive to rotation of the pivot arm about the pivot point, one of the apertures being formed is a through aperture; and

inserting an implant into the apertures formed in each of the adjacent vertebrae so that the implant extends between the adjacent vertebrae and through the intervertebral space and passes through a portion of the intravertebral prosthetic device, wherein a portion of the fixation member is made from a ~~flexible~~compressible material.

109. (PRESENTLY AMENDED)The method of claim 108 wherein said ~~step of forming includes forming an arcuate~~ aperture in each of the adjacent vertebrae is arcuate.

110. (PRESENTLY AMENDED) The method of claim 108 wherein the ~~flexible~~compressible material is one of silicon, elastomeric polymers, polyurethances and copolymers thereof, hydrogels, collagen, bioabsorbables, compositions, a metallic spring or coil, or a material that ~~allow~~ allows continual mobility between the vertebral bodies.

111. (PREVIOUSLY ADDED) The method of claim 108, wherein the implant includes a non-flexible portion made of a material conducive to attachment to the vertebrae.

112. (PRESENTLY AMENDED) The method of claim 111, wherein the non-flexible portion of the implant is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

113. (PRESENTLY AMENDED) The method of claim 108, wherein the ~~flexible~~compressible portion of the implant is disposed between end sections, each end section ~~be~~ being made of non-flexible material conducive to attachment to the vertebrae.

114. (PRESENTLY AMENDED) The method of claim 113, wherein the non-flexible material is made from one or more of a metal, bone, morphogenic protein, carbon fiber composite, nitinol, a biodegradable material, ~~collogen~~ collagen or collagen coated metal or bone.

115. (PRESENTLY AMENDED) The method of claim 108, wherein the step of forming includes forming ~~an aperture in each of the adjacent vertebrae~~ by one of drilling or ablation of the bone by an energy source.

116. (PREVIOUSLY ADDED) The stabilizing method of claim 108 wherein the apparatus being provided further includes a drill that is affixed to the pivot arm such that when the pivot arm rotates about the pivot point the drill follows a defined arcuate cutting path.

117. (PREVIOUSLY ADDED) The method of claim 116 wherein the drill includes a curved drilling element.

118. (PREVIOUSLY ADDED) The method of claim 117 wherein the curved drilling element comprises a curved cannula, a flexible member disposed within the curved cannula, and a

cutting burr affixed to an end of the flexible member, the flexible burr for cutting an arcuate aperture in each of the adjacent vertebrae.

119. (PRESENTLY AMENDED) The method of claim 116 wherein the step of forming includes rotating the pivot arm so that a through aperture is formed in one of the adjacent vertebrae and so a partially formed aperture ~~(i.e., non-through aperture)~~ is formed in the other of the adjacent vertebrae.

120. (PREVIOUSLY ADDED) The method of claim 116 wherein the step of forming includes rotating the pivot arm so that a through aperture is formed in each of the adjacent vertebrae.

121. (PRESENTLY ADDED) A spinal system comprising:

a mammalian spine with a surgically implanted arcuate member and an intravertebral prosthetic device;

wherein the arcuate member extends between two adjacent vertebrae;

wherein the arcuate member is configured so as to extend through a preformed aperture in each of the two adjacent vertebrae.

122. (PRESENTLY ADDED) The spinal system of claim 121 wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate implant member.

123. (PRESENTLY ADDED) The spinal system of claim 122, wherein the portion of the arcuate implant member that passes through the intravertebral prosthetic device is made from a compressible material.

124. (PRESENTLY ADDED) An implantable spinal intravertebral prosthetic system, comprising:

an intravertebral prosthetic device;

an arcuate implant member of a size sufficient to extend between two adjacent vertebrate;

wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate implant member; and

wherein the implant member is sized so as to extend through a pre-formed aperture in each of the two adjacent vertebrae.

125. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, wherein the preformed aperture in each of the adjacent vertebrae is of a constant radius and wherein the arcuate implant member is configured so as to extend through each constant radius preformed aperture.

126. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, wherein the arcuate implant member is configured so as to have a uniform outer diameter.

127. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, wherein the arcuate implant member is configured so as to be secured by fixation points within the adjacent vertebrae.

128. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, wherein the arcuate implant member is configured and sized so as to be a load bearing member.

129. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, further including a plurality of securing mechanisms one for each of the adjacent

vertebrae, each securing mechanism being configured so as to secure the securing mechanism to one of the adjacent vertebrae, wherein the arcuate implant member is configured so as to be secured to each of the adjacent vertebrae by the plurality of securing mechanisms.

130. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 129, wherein each end portion of the arcuate implant member is configured so as to be secured respectively to one of the adjacent vertebrae by one of the plurality of securing mechanisms, thereby further securing the arcuate implant member to the adjacent vertebrae.

131. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 124, wherein the portion of the arcuate implant member that passes through the intravertebral prosthetic device, is made from a compressible material.

132. (PRESENTLY ADDED) An implantable spinal intravertebral prosthetic system, comprising:

an intravertebral prosthetic device;

an arcuate implant member of a size sufficient to extend between two adjacent vertebrate;

a plurality of securing mechanisms one for each of the adjacent vertebrae, each securing mechanism being configured so as to secure the securing mechanism to one of the adjacent vertebrae;

wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate implant member; and

wherein each of the plurality of securing members is configured so as to mechanically engage separate portions of the arcuate implant member, thereby securing the arcuate implant member to each of the adjacent vertebrae.

133. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 132, wherein the arcuate implant member is sized so as to extend through a pre-formed aperture in each of the two adjacent vertebrae.

134. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 132, wherein each of the plurality of securing members are configured so as to be threadably secured respectively in one of the adjacent vertebrae.

135. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 132, wherein the portion of the arcuate implant member that passes through the intravertebral prosthetic device, is made from a compressible material.

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136. (PRESENTLY ADDED) A spinal intravertebral prosthetic device kit comprising:
an intravertebral prosthetic device;
an arcuate fixation member that is configured to extend between two adjacent vertebrae;
wherein the intravertebral prosthetic device is configured to receive therein a portion of the arcuate fixation member.

137. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic device kit of claim 136, wherein the portion of the fixation member that passes through the intravertebral prosthetic device, is made from a compressible material.

138. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic device kit of claim 136, wherein the arcuate fixation member is configured to also extend through a preformed aperture in each of the two adjacent vertebrae.

139. (PRESENTLY ADDED) The method of claim 78 wherein the intravertebral prosthetic device comprises a compressible material.

140. (PRESENTLY ADDED) The method of claim 139 wherein the compressible material is one of silicon, elastomeric polymers, polyurethanes and copolymers thereof, hydrogels, collagen or bioabsorbables.

141. (PRESENTLY ADDED) The method of claim 88 wherein the intravertebral prosthetic device comprises a compressible material.

142. (PRESENTLY ADDED) The method of claim 141 wherein the compressible material is one of silicon, elastomeric polymers, polyurethanes and copolymers thereof, hydrogels, collagen or bioabsorbables.

143. (PRESENTLY ADDED) The spinal intravertebral prosthetic system of claim 95 wherein the intravertebral prosthetic device comprises a compressible material.

144. (PRESENTLY ADDED) The spinal intravertebral prosthetic system of claim 143 wherein the compressible material is one of silicon, elastomeric polymers, polyurethanes and copolymers thereof, hydrogels, collagen or bioabsorbables.

145. (PRESENTLY ADDED) The spinal intravertebral prosthetic device kit of claim 102 wherein the intravertebral prosthetic device comprises a compressible material.

146. (PRESENTLY ADDED) The spinal intravertebral prosthetic device kit of claim 145 wherein the compressible material is one of silicon, elastomeric polymers, polyurethanes and copolymers thereof, hydrogels, collagen or bioabsorbables.

147. (PRESENTLY ADDED) The method of claim 110 wherein the intravertebral prosthetic device comprises a compressible material.

148. (PRESENTLY ADDED) The method of claim 147 wherein the compressible material is one of silicon, elastomeric polymers, polyurethanes and copolymers thereof, hydrogels, collagen or bioabsorbables.

149. (PRESENTLY ADDED) The spinal system of claim 123, wherein the intravertebral prosthetic device comprises a compressible material.

150. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 131 wherein the intravertebral prosthetic device comprises a compressible material.

151. (PRESENTLY ADDED) The implantable spinal intravertebral prosthetic system of claim 135 wherein the intravertebral prosthetic device comprises a compressible material.

152. (PRESENTLY ADDED) The implantable spinal intravertebral device kit of claim 138 wherein the intravertebral prosthetic device comprises a compressible material.

153. (PRESENTLY ADDED) A method for locating compressible material in an intravertebral space between vertebral endplates of a spine, said method comprising the steps of:

creating an arcuate preformed aperture in a vertebral body that extends through the vertebral endplate of the spine;

placing compressible material though the preformed aperture such that the compressible material is disposed between the vertebral endplates; and

filling at least a portion of the preformed aperture with an arcuate member of a non-compressible material.